green.ch

Online Backup Client User Manual
Professional Edition

Software version 3.13
For Microsoft Windows

September 2010

Version 1.0

Disclaimer

This document is compiled with the greatest possible care. However, errors might have been introduced caused by human mistakes or by other means. No rights can be derived from possible inaccuracies or errors as this is not a contractual agreement, but for information only.

1. Contents

1. Contents **2**

2. Product Information **5**

2.1. System Requirements 5

3. Features **6**

3.1. Application plug-ins 6

3.2. Scheduled backup 6

3.3. Management Console 6

4. Setup **7**

4.1. Setup Wizard 7

4.2. Registration Wizard 8

5. Wizards **10**

5.1. Backup Wizard 10

5.1.1. Advanced options 11

5.2. Restore Wizard 12

6. The client interface **13**

7. Home view **14**

8. Backup **15**

8.1. Manage backup tasks 15

8.2. Creating a backup task 15

8.3. Task Properties 15

8.3.1. General tab 15

8.3.2. Data tab 16

8.3.3. Schedule 17

8.3.4. Filter 18

8.3.5. Advanced tab 18

8.4. Monitor backup progress 19

8.4.1. Details screen 19

9. Restore 21

9.1. View stored data 21

9.2. Restore data 21

9.2.1. Restore local backup 21

9.3. Restore Options 22

9.3.1. Version 22

9.3.2. Location 22

9.3.3. Calculate restore size 23

9.3.4. Advanced 23

9.4. Deleting stored data 23

9.5. Monitor restore process 24

10. Reports and Logs 25

10.1. Reports 25

10.2. Logs 25

10.3. Cleaning Reports and Logs 26

11. Options 27

11.1. General tab 27

11.2. Backup and Restore tab 27

11.3. Advanced tab 28

12. Support 30

13. About 30

14. Windows System State 31

14.1. Backup of the SystemState 31

14.2. Restore of a SystemState 32

15. Microsoft Exchange 2000/2003 33

15.1. Introduction 33

15.2. Backup on mail store level (ESE plug-in) 33

15.2.1. Backup requirements 34

15.3. Restore on mail store level 34

15.4. Backup on folder level 35

15.4.1. Backup Requirements 36

15.5. Restore on folder level 37

15.6. Backup of Exchange using VSS 38

16. Microsoft SQL Server 2000/2005 39

16.1. Introduction 39

16.2. Backup 39

16.2.1. Backup requirements 39

16.2.2. Further notes on backup procedures 40

16.3. Restore 40

16.3.1. Restore requirements 41

2. Product Information

Product: Online Backup Client

Version: 3.13.2.1

2.1. System Requirements

Operating System	▸ Windows 2000 Professional ▸ Windows XP (Home / Professional) ▸ Windows Vista / 7 ▸ Windows Server 2000 / 2003 / 2008 / Small Business Server ▸ Linux* (RedHat, SuSE, Debian and Debian based systems such as Ubuntu) ▸ Mac OS X* Tiger (10.4.10 and higher) ▸ Mac OS X* Leopard (10.5.0 and higher)
Hardware Resources	▸ PC with 300 megahertz (MHz) or higher processor clock speed recommended ▸ 128 MB memory ▸ 25 MB of disk space ▸ Internet connection (e.g. ADSL, SDSL)
Required software	▸ Microsoft .Net framework 2.0** ▸ Java 1.5 platform or higher is required ***

** A separate manual is available for the Online Backup Client for Linux and Mac OS X*
*** Only required for the Microsoft Windows version of the client*
**** Only required for the Mac OS X / Linux version of the client (not covered in this manual)*

3. Features

3.1. Application plug-ins

The Online Backup Client makes it very easy to backup Microsoft Outlook, Outlook Express, Favorites and Windows System State, containing e.g. Windows Registry, Active Directory and System and Boot Files.

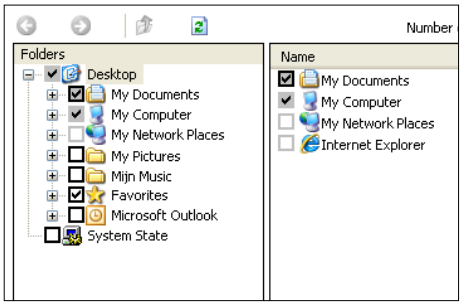

Figure 1: Data selection options

3.2. Scheduled backup

You can make one or more scheduled backup tasks. You can schedule the tasks multiple times a day, weekly or monthly. After the tasks are created, they will run through their schedule automatically. After completion of a backup, a report is sent by e-mail. You are always up-to-date on the status of your backups.

3.3. Management Console

The Online Backup Service also includes a Management Console, which can be accessed through an internet browser (e.g. Internet Explorer). It has several functions:

- Access your data to restore or remove a file
- Change user settings (e.g. password)
- Overview of your backups through logs and reports

4. Setup

4.1. Setup Wizard

After executing the setup you can choose your preferred language for the Setup Wizard. Currently English, Dutch, French, German, Spanish, Italian and Polish are supported.

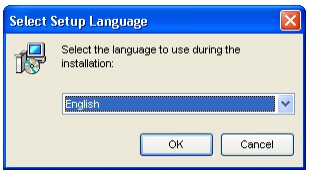

Figure 2: Choose language

The next steps are:

- Accepting the license agreement
- Choosing an installation directory
- Choosing a Start Menu folder name
- Selecting preferred shortcuts

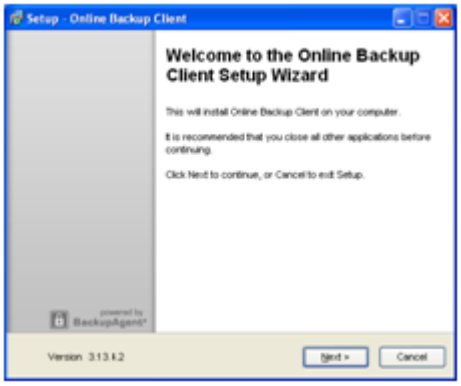
Setup - Online Backup Client
Welcome to the Online Backup Client Setup Wizard
This will install Online Backup Client on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Version 3.13.1.2
Next >
Cancel

Figure 3: Setup Online Backup Client

If the .Net framework (2.0) is not yet installed on your computer, you can retrieve this freely from the Microsoft download site.

When the completion screen shows, the Online Backup Client is successfully installed on your computer!

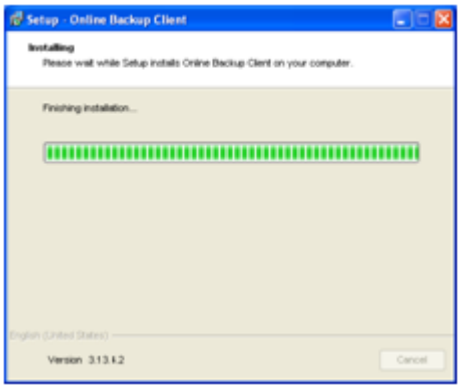

Figure 4: Installing the client

4.2. Registration Wizard

When the Online Backup Client is started for the first time, it will start with the Registration Wizard. The Registration Wizard guides you to fill in the account information and encryption key. With the encryption key your data will be encrypted and decrypted.

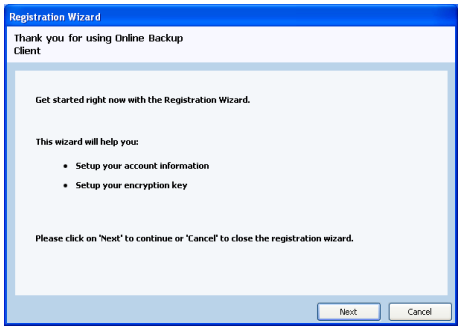
Registration Wizard
Thank you for using Online Backup Client
Get started right now with the Registration Wizard.
This wizard will help you:
Setup your account information
Setup your encryption key
Please click on 'Next' to continue or 'Cancel' to close the registration wizard.
Next
Cancel

Figure 5: Registration wizard

First, you need to fill in the username and password that you have created or obtained from your Online Backup Provider.

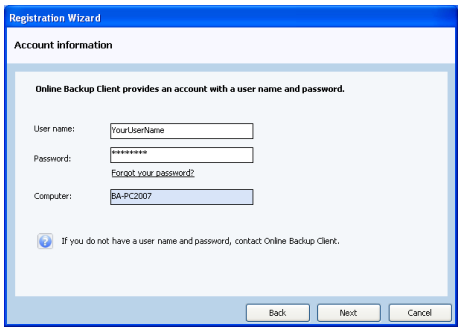

Figure 6: User account

Note: This screen also displays the computer name which will be registered at the Backup Server to store all files.

Note: If you don't remember your password you can click on the link below the password text field. A reminder will then be sent to your registered e-mail address.

Note: If there is a problem with the username and password, several causes can apply to this:

- The username and/or password does not exist or is incorrect
- The time on your machine differs very much from the real time (more than 24 hours)
- Required port 443 (SSL) is blocked by an anti-virus program or firewall on the network

The next wizard page will ask you to set an encryption key. This key encrypts all backup data and decrypts data when restoring.

You can set the encryption key only once. After setting this key it cannot be changed. If you forget the encryption key, it is impossible to access your backup data. Please keep a copy of the encryption key in a safe place.

Registration Wizard
Encryption key
To secure your files, you must specify an encryption key. This is an extra password to encrypt and decrypt your data.
The Encryption key should be more than 6 characters and less than 20.
Fill in your Encryption Key:
****
Forgot your encryption key?
!! If you lose or forget your encryption key, your data will be IRRETRIEVABLY LOST. !!
Back
Next
Cancel

Figure 7: Encryption Key

IMPORTANT: This key is unique and can only be chosen once and cannot be changed afterwards. Treat this key with great care, since it is required to restore your files after a system crash.

Note: It is possible to store a reminder which can be sent to your personal e-mail address. In this wizard the field to enter the reminder will change into a link: 'Forgot your encryption key?'

The wizard is now finished. If the Online Backup Client is installed for the first time, the Registration Wizard will present the option to start the 'Backup Wizard' after finishing.

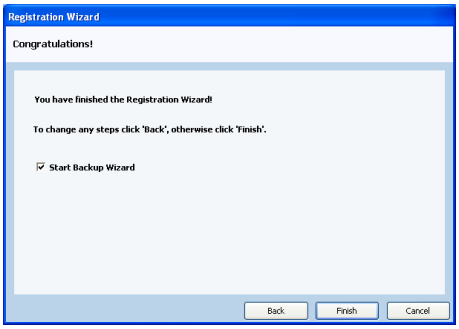

Figure 8: End of Registration Wizard

5. Wizards

5.1. Backup Wizard

The Backup Wizard provides a clear and friendly way to detect important data for backup and makes configuring a first backup task very easy.

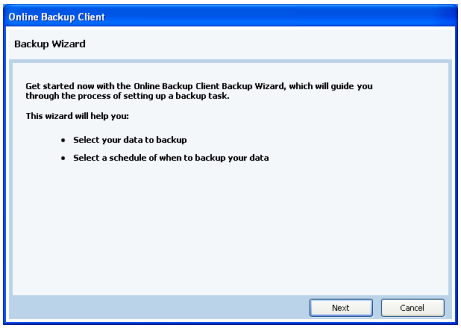
Online Backup Client
Backup Wizard
Get started now with the Online Backup Client Backup Wizard, which will guide you through the process of setting up a backup task.
This wizard will help you:
Select your data to backup
Select a schedule of when to backup your data
Next
Cancel

Figure 9: Start of Backup Wizard

The first view in the wizard allows you to name the task. It also provides a dropdown box with profiles of important data. Selecting an item in the drop down box will also show a description of what the profile contains.

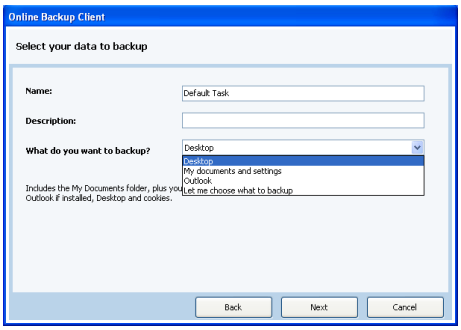

Figure 10: Set the task

The next view will allow you to schedule the backup task.

You can set time and frequency. The frequency can be set as:

- Once
- Multiple times a day
- Daily
- Weekly
- Monthly

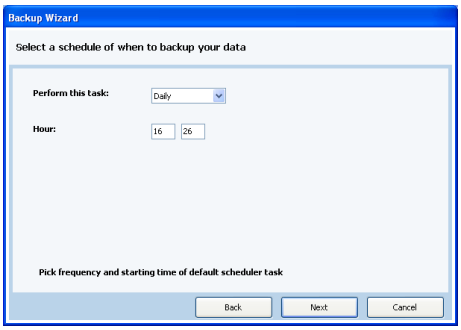

Figure 11: Set a schedule

Now the backup task is fully configured. When clicking on the 'Finish' button the task will appear in the Online Backup Client. You can also click the 'Advanced' button to specify more options.

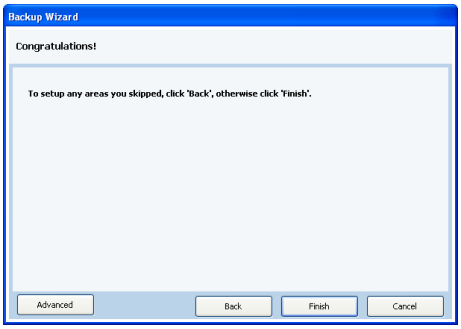

Figure 12: End of Backup Wizard

5.1.1. Advanced options

The advanced options consist of two extra steps in the wizard to configure filters and backup location.

Filter

The first view allows you to filter the data in the task. You have to add a filter and determine if the filter ignores the files ('except files') or allows only the files in the filter and ignores all other files ('only files').

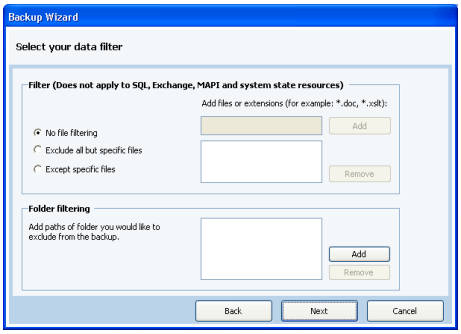

Figure 13: Select a filter

Local Backup

The next view of 'Advanced' will allow you to determine if the backup has to be performed online or locally. If you choose to backup locally, you need to specify the destination location for the backup (a local folder on the pc or an external medium).

When you enable compression, the result will be put in a large zip archive. This can take while to complete. If you leave this option disabled, compression on the individual files will still be applied.

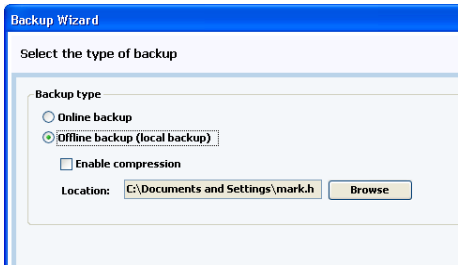

Figure 14: Select Offline Backup (local backup)

Tip: A removable hard disk can be selected as a local backup location.

5.2. Restore Wizard

The Restore Wizard provides a clear and friendly way to restore your data. Click on Restore Wizard in the ‘Home’ view of the Online Backup Client.

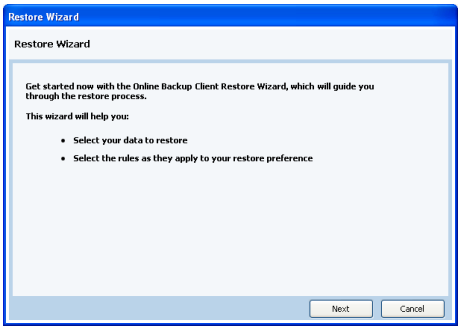
Restore Wizard
Restore Wizard
Get started now with the Online Backup Client Restore Wizard, which will guide you through the restore process.
This wizard will help you:
Select your data to restore
Select the rules as they apply to your restore preference
Next
Cancel

Figure 15: Start of Restore Wizard

In the next view you can see the data on the Backup Server. Here you can select the data that needs to be restored.

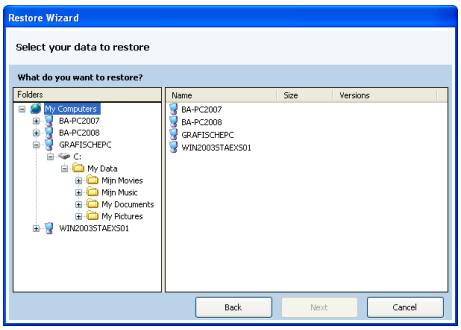

Figure 16: Select your file or folder

Next, you can specify the location where the restored data must be placed and the ‘overwrite rules’.

Next to that you can choose to calculate the restore size. Enabling this option allows the Online Backup Client to give an estimation of the restore time remaining. Skipping this calculation saves time.

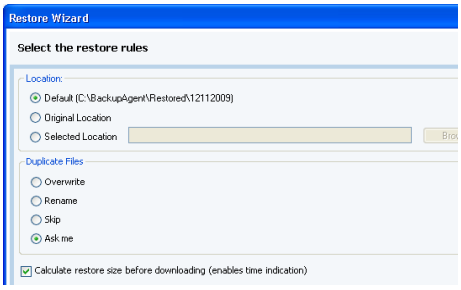

Figure 17: Restore rules

In the next view you can choose to filter out specific files or folders during the restore.

By clicking [Start] in the last screen, the restoration of your files will begin.

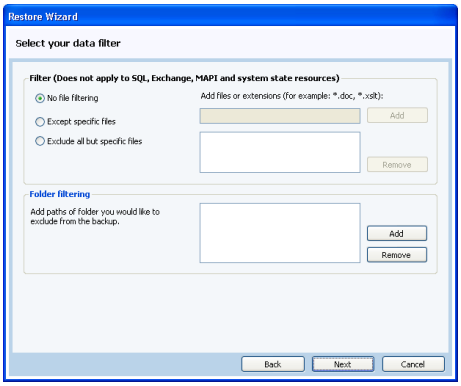

Figure 18: Data filter

6. The client interface

The main interface of the Online Backup Client, shown in the figure on the right, consists of 3 components:

1. Navigation Panel
2. Account Information
3. Main Panel (e.g. Home)

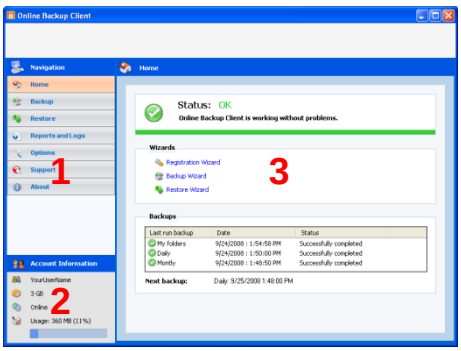

Figure 19: Client interface

Navigation panel

The Navigation Panel is the main navigation through the Online Backup Client. The options:

- Home: Monitor the status and use Wizards
- Backup: Create and manage backup tasks
- Restore: Restore your remote backup data
- Reports and Logs: View status information of executed backups
- Options: Configure program settings
- Support: View contact information for support
- About: Additional information about the Online Backup Client

Account Information

Shows account details, such as:

- Account Name
- Amount of Remote Storage
- Program Status
- Usage of your Remote Storage

Main Panel

The Main Panel is the working space of the Online Backup Client. This panel will change its view, while navigating through the Online Backup Client.

7. Home view

Overall status

When starting the Online Backup Client, the program will show the Home view. This view can also be accessed through the Navigation Panel. On top of the Home view you can see the overall status of the backup service.

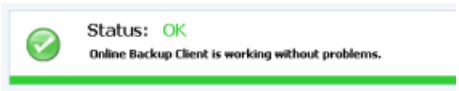

Figure 20: Overall Status

Wizards

Right beneath the overall status, you can start Wizards to help you with registration, creation of backup tasks and restoration of data.

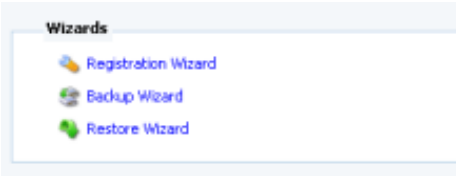

Figure 21: Supportive Wizards

Task statuses

At the bottom of the Home view the last three ran backups are shown. Next to the task names you can see their statuses and the date/time they finished.

Below the table the next scheduled backup task is shown including the start date and time.

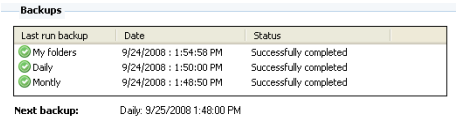

Figure 22: Status of the last and next backup

8. Backup

8.1. Manage backup tasks

By clicking on ‘Backup’ in the Navigation Panel, you can manage your backup tasks. By selecting a task in the task list, you can examine its specifications. You can manually run, edit or delete the task. It is also possible to create new tasks.

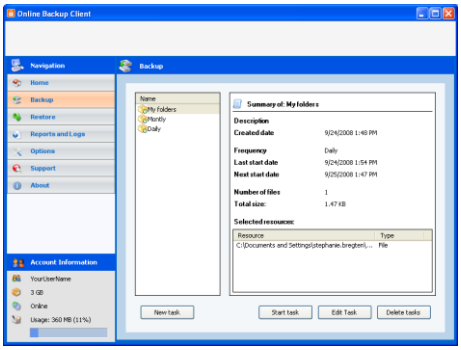

Figure 23: Backup

8.2. Creating a backup task

To create a backup task, click on [New Task] below the task list in the Backup view. ‘Task Properties’ will pop up; it allows you to configure the task. If you cancel Task Properties, the task will not be saved. Read more about how to configure a task with Task Properties in paragraph 8.3.

8.3. Task Properties

Task Properties appears when creating a new task, or editing an existing task. It allows you to configure the settings of the task. Task Properties contains 4 tabs:

- General: Task Name, Description and run options
- Data: Select data resources for backup
- Schedule: Time and Frequency
- Filter: Exclude files and folders from backup

8.3.1. General tab

The ‘General’ tab allows you to set the general options of the backup task.

Name and Description

It is advised to give the backup task a descriptive name to increase the recognition of the task when monitoring. Optionally you can enter a task description.

Checkboxes

Active

When checked, the task is activated and will be performed by schedule.

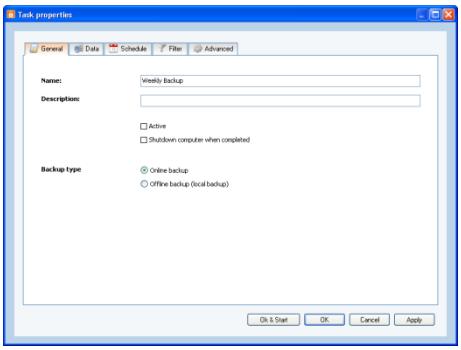

Figure 24: General view

Shutdown Computer when completed

When checked, your system will shut down automatically after completion of the backup task. This option has been disabled on servers. Also, the client has to be running for this option to be effective. If the client is closed the computer will not shutdown, to prevent unexpected shutdowns. In case a shutdown is desired even if the client is not running, you can add the following post script in the backup task: *Shutdown -s -t 600*

Backup Type

By default, the Online Backup Client makes backups online (to an external Backup Server, over the Internet). It is also possible to make a local backup, e.g. to a removable hard disk. This results in a self-extractable ZIP file which can be shipped to your Online Backup Provider. The Online Backup Provider can include the data in your backup account.

By selecting the 'Offline backup (local backup)' radio button, a default local backup directory is displayed in the 'Location' textbox. It is possible to change this location by browsing an additional directory. When you enable Compression, the result will be put in a large zip archive. This can take while to complete. If you leave this option disabled, compression on the individual files will still be applied.

8.3.2. Data tab

The 'Data' tab allows you to select data to backup within the task. You can easily navigate through your system with the Windows Explorer-like tree at the left. Data can be selected by checking the boxes in front of the files and folders.

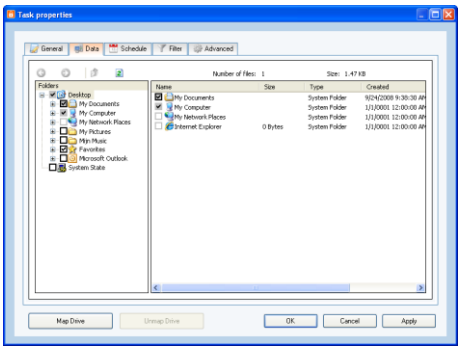

Figure 25: Select backup data

When a folder is selected for backup, underlying files and folders are automatically included in the selection, unless

explicitly deselected.

Note: If a folder is checked with a grey background only a subset of this folder is part of the backup set.

Note: A light grey square in front of a file or folder means that it is not possible adopt that item in the backup set

Map network drives

You can map additional network drives, by clicking on 'Map Drive'. A drive letter will be added to the data tree, which can be selected for backup.

8.3.3. Schedule

You can set a schedule for the backup task in the 'Schedule' tab. A task can be scheduled by setting a start time and frequency.
By default, the schedule is set to a daily backup at the time the task originally is created.

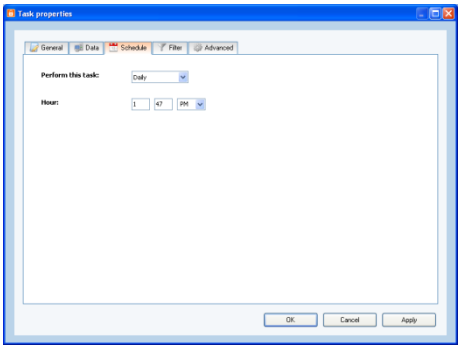

Figure 26: Set a schedule

The following frequencies can be set:

- Multiple daily: Task is performed one or multiple times a day
- Once: Task is performed once
- Daily: Task is performed daily
- Weekly: Task is performed one or multiple days a week
- Monthly: Task is performed once a month

8.3.4. Filter

The ‘Filter’ tab offers the possibility to exclude files and folders from the backup set. You can also choose to include hidden files by checking the checkbox.

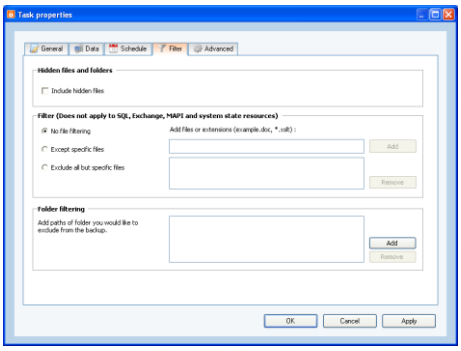

Figure 27: Filter view

Filter options:

- No file filtering (default)
- Filter out files on file name/extension (‘Except specific files’)
- Filter out all files except with certain file name/extension (‘Except all but specific files’)
- Filter out folders by browsing their locations.

Note: To specify a filter, regular search expressions can be inserted:

- Filter document (.doc) files: *.doc
- Filter files starting with hello: hello*
- Filter a specific file: ntuser.dat

8.3.5. Advanced tab

Enable Volume Shadow Copy

When checked, the task will backup files that are in use (open files).

Note: Volume Shadow Copy is only available from Windows XP, Windows Server 2003 and higher

Pre-Script

A Pre-Script is an advanced option to run certain operations before starting the backup task. You can simply browse a command or batch file (e.g. C:\scripts\command.bat) which will be executed prior to the start of the backup task.

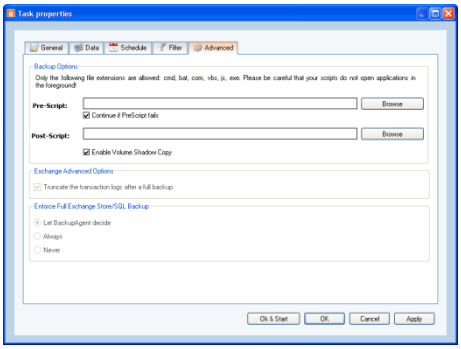

Figure 28: Advanced options view

Continue if Pre-Script fails

When checked, the backup will be performed, even if the prescript did not run properly.

Post-Script

A Post-Script is an advanced option to run certain operations after a backup task has run. You can simply browse a command or batch file (e.g. C:\scripts\command.bat) which will be executed after the backup task is completed.

8.4. Monitor backup progress

The backup process can be monitored by clicking on 'Details' on the bottom of the application. The 'Details' bar is only shown during a backup process. The 'Details' screen will pop-up automatically when a backup task is initiated.

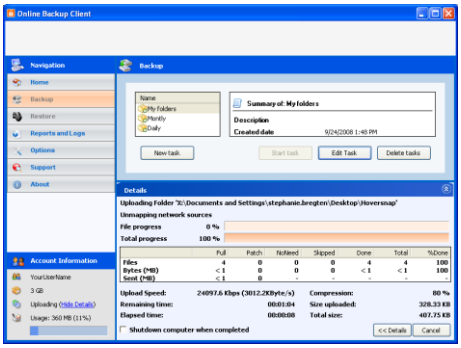

Figure 29: Details during a backup

8.4.1. Details screen

Progress bars

- File progress: The progress of the backup of the indicated file
- Total progress: The progress of the total backup task

Details table (shown on click [Details>>])

- Full: Full backed up files
- Patch: Patched backed up files (incremental backup patch over last backup)
- NoNeed: Unchanged files (unchanged compared to last backup)

- Skipped: Skipped files (details in the logs)
- Done: The total amount of processed data
- Total: The total amount of selected data
- %Done: The percentage of processed data

Other information

- Avg.upl.speed: The average upload speed
- Remaining time: The estimated remaining time
- Elapsed time: The elapsed time
- Compression: The average compression rate of the backed up data
- Size uploaded: The size of the uploaded data
- Total size: The total size of the selected data

9. Restore

9.1. View stored data

Your remotely stored data can be accessed by clicking ‘Restore’ in the Navigation Panel. The ‘Restore’ view allows you to restore this remote data to your computer.

The Windows Explorer-like view shows one or more computers, because the data are related to their source computer. When you open a computer node, you will notice that all data kept the same structure as it was on your computer.

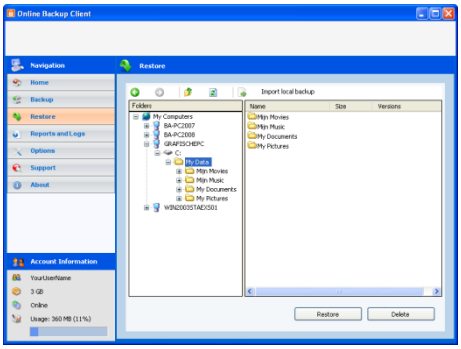

Figure 30: Restore

9.2. Restore data

Data can be restored per file, folder or drive. Select files, folders or drives you want to restore in the Restore view. By clicking [Restore] the ‘Restore Options’ screen will pop up and allows you to select a version and a restore location. Read paragraph 9.3 for more information.

9.2.1. Restore local backup

Within the Restore view it is possible to import your local backups. This allows you to restore data from e.g. a local hard disk to your computer.

Select ‘Import local backup’ in the Restore view, then open a ‘local backup file’, which is a ZIP file. This file can be created by yourself (local backup), or delivered by your Online Backup Provider, for fast restoring purposes. Once the local backup is loaded in the tree of the Restore view, you can restore the data in the same way as your remote data.

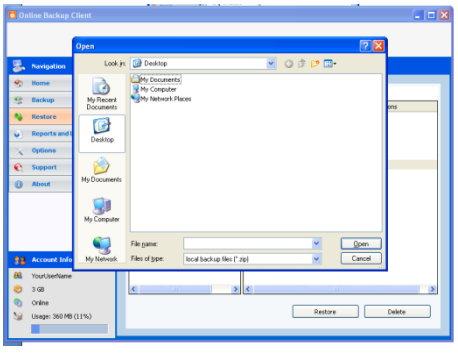

Figure 31: Select ‘local backup file’ for restore

Note: The local backup file is a special ZIP file created with the Online Backup Client.

9.3. Restore Options

9.3.1. Version

The client can store multiple versions of files, by default the Online Backup Client stores 3 versions of a file. This amount can be changed in the 'Options' view (paragraph: 11.2 of this manual).

Latest version

To restore the latest version, keep the version setting unchanged. This means that the 'Latest version' radio button is selected.

Restore at date

It is possible to restore a file or folder at a selected date in history. Select the 'Older versions' radio button. Now you can select a date in history. The latest backed up versions of the selected files or folder before that date will be restored (if that backup version exists).

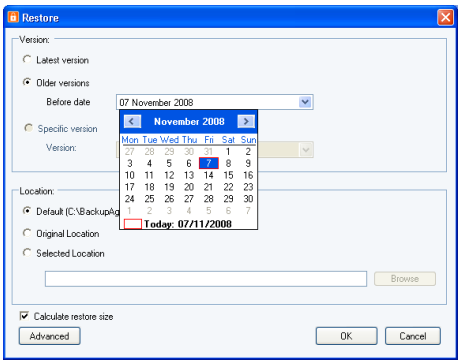

Figure 32: Easy date selection

Restore specific version

A specific version of a stored file can be selected. To do so, select the 'Specific version' radio button.

The available versions of the file will be displayed in the dropdown box. Simply select the favored version.

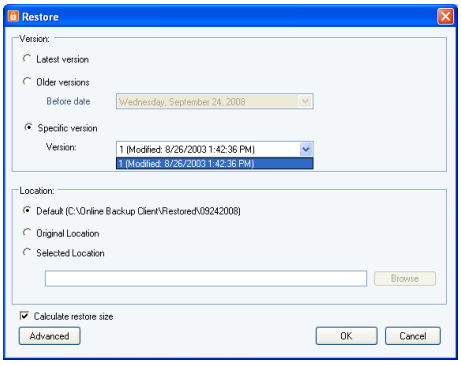

Figure 33: All file versions

9.3.2. Location

The location is where the files will be restored.

Default location

The Default location is predefined. The default location can be changed in the Options view (see paragraph 11.2).

Original location

When 'Original location' is selected, the files will be restored to their original location on your computer. If the files already exist on your computer, the Online Backup Client will prompt Overwrite options.

Selected location

If you want to browse a location, choose this option.

9.3.3. Calculate restore size

You can choose to calculate the restore size. Enabling this option allows the Online Backup Client to give an estimation of the restore time remaining. Skipping this calculation saves time.

9.3.4. Advanced

When clicking [Advanced], a popup will show that allows you to use Pre- and Post-scripts. For more information on these scripts, read the paragraphs 'Pre-script' and 'Post-script' in paragraph 8.3.1.

9.4. Deleting stored data

First select the data that needs to be deleted (you can select multiple files or folders). Click on [Delete] in the lower main panel to delete the file(s).

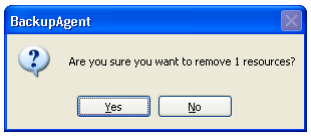

Figure 34: Confirm delete action

Note: Removing a folder with many files might cause the folder not to disappear immediately, since the server software will execute this in the background.

9.5. Monitor restore process

The restore process can be monitored by clicking on ‘Details’ on the bottom of the application during the process of a restore (the details-screen will pop-up automatically when a restore is initiated).

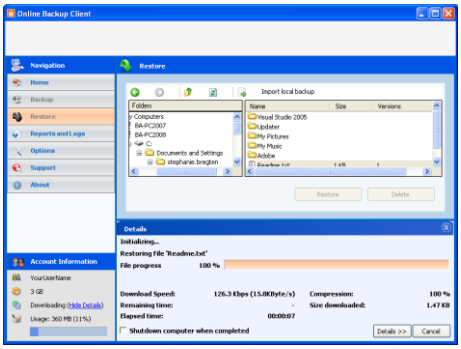

Figure 35: Restoring Data

Progress information

- File progress: The progress of the restore of the indicated file
- Files Restored: The number of files that have been restored
- Files Skipped: The number of files that have been skipped
- Bytes Restored (MB): The amount of restored files in Megabytes
- Bytes Skipped (MB): The amount of skipped files in Megabytes
- Bytes Received (MB): The amount of received files in Megabytes
- Avg.downl.speed: The average download speed
- Remaining time: The estimated time remaining
- Elapsed time: The elapsed time
- Compression: The average compression rate of the backed up data
- Size downloaded: The size of the downloaded data
- Total size: The total size of the selected data

10. Reports and Logs

10.1. Reports

The “Reports”-view shows a history of reports. You can view the status of past backups and restores.

Details of a report can be viewed by selecting the report and clicking on [View]. This report will also be sent to you by e-mail after a task is completed.

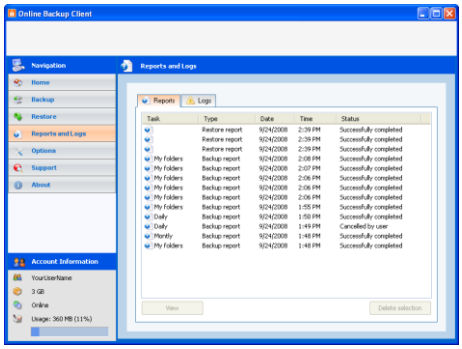

Figure 36: Report view

10.2. Logs

The ‘Logs’ view shows a history of log files. Three types of events can occur:

- **Information**
  This is information on the progress of the backup or restore procedure
- **Warning**
  Non fatal errors occurred during the backup or restore process.
- **Error**
  A fatal error has occurred in the Online Backup Client.

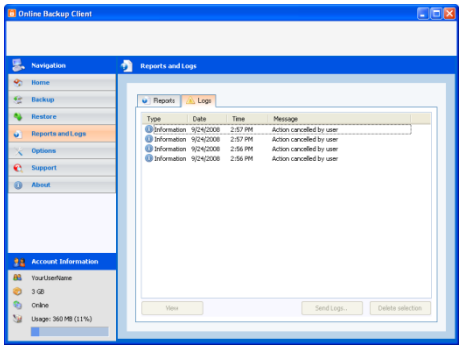

Figure 37: Log view

Details of a log message can be viewed by selecting the specific log message and clicking on [View]. This shows a dialog with detailed information of the message.

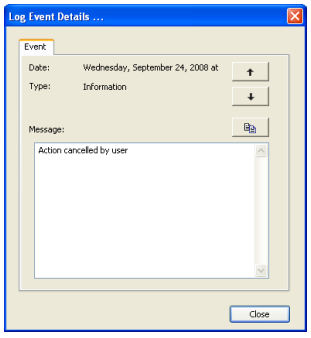

Figure 38: Log Event Details

10.3. Cleaning Reports and Logs

In a few steps it is possible to clean the reports or logs list. In the list of reports or logs, you can make a selection (using ctrl and shift). To clear the list, click on [Delete Selection].

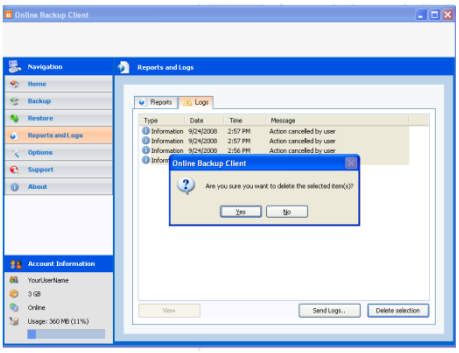

Figure 39: Deleting Reports and logs

11. Options

You can change program and process settings in the Options view, which can be accessed through the 'Options' button in the Navigation Panel. The Options view contains the following tabs:

- General
- Backup and Restore
- Advanced

11.1. General tab

In the General tab, you can set general options of the Online Backup Client. Self explaining checkboxes can be used to configure the program settings. Next to that you can set the **language** of the Online Backup Client. You can also change your password of your backup account.

Note: It might not be possible to change your password in the Online Backup client, since your Online Backup Provider can disable this option.

11.2. Backup and Restore tab

In the Backup and Restore tab, you can set options that are specific for backing up and restoring with the Online Backup Client.

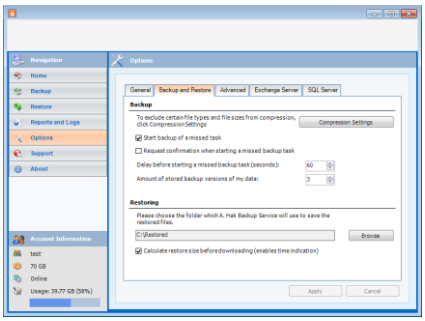

Figure 40: Default restore directory

Version

In this view the maximum number of versions of backed up files can be set. The default value is 3 versions, minimum is 2.

Restore folder

The textbox contains the default restore location. This is the folder where data is restored by default when you don't choose a specified folder.

Backup

Start backup of missed task

When this setting is enabled, the missed tasks will automatically start the next time the service of the Online Backup Client is started.

Request confirmation when starting a missed task

When this option is enabled you get a pop up box where you can choose to start the missed backup task(s)

Compression Settings

You can add file extensions that should never be compressed during backup. You can add multiple extensions separated with commas.

Minimum file size (bytes): Smaller files will not be compressed

Maximum file size (bytes): Larger files will not be compressed. (0 = no maximum file size)

11.3. Advanced tab

Advanced

Backup- and restore-privileges

This overrules access rights for administrators for backup purposes

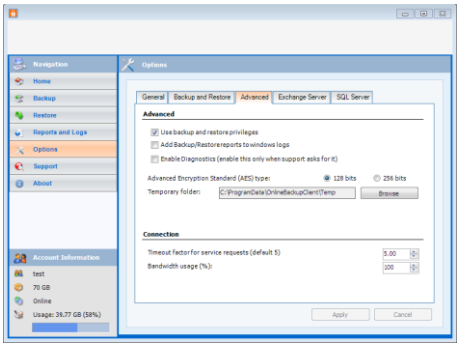

Figure 41: The advanced tab

Add Backup/Restore reports to windows logs

Used to track errors in the backup or restore processes.

Enable the diagnostics

Diagnostics is a logging system for error tracking

Perform backup by background service

This option is used to make backups of servers while the user is logged off.

Advanced Encryption type

Encryption of the data can be encrypted with AES 128 bits or 256 bits encryption. Where the AES 128 Bits encryption is faster, AES 256 bits encryption is more secure.

Temporary folder

You can select the folder where temporary files are stored before they are transferred to the Backup Server.

Note: Make sure there is enough disk space available to store the largest file to upload

Note: Make sure that this is an empty folder, because this folder is cleared after the backup

Windows Service

The Online Backup Service performs backups when the client is not running. *Current Service Status* shows if this service is running. When it is not running, it can be started manually with [Start Service].

Connection

Timeout factor for service requests

This is a service based timeout interval that can be set depending on the speed and reliability of the internet connection. It is a multiplier of the default timeout interval of 10 seconds.

Bandwidth usage

This allows you to adjust the upload speed in percentage (%) of the available bandwidth between the Online Backup Client and the Backup Server.

12. Support

Clicking on “Support” in the "Navigation" panel will give contact details of your Online Backup Provider.

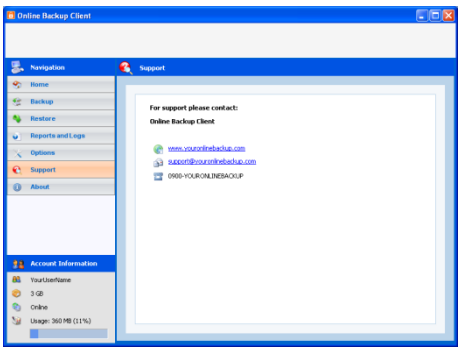

Figure 42: Support contact information

13. About

Clicking on “About” in the "Navigation" panel will give details on the version of the software and the license of the software.

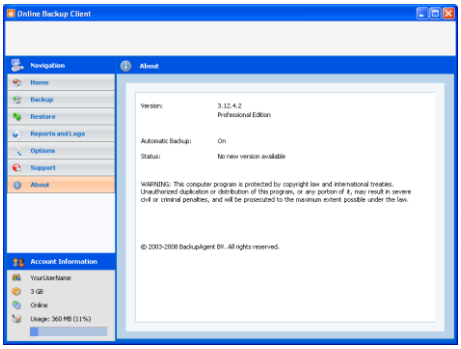

Figure 43: About Screen

14. Windows System State

This chapter explains how to backup and restore system state on Windows 2008 differentially.

14.1. Backup of the SystemState

Step 1: Install Server backup features, including command-line tools

Step 2: Ensure you have an additional storage volume available with at least 30 GB of data capacity

Step 3: Create a new file 'systemstatebackup.bat' containing the following script:

```
@echo off & Setlocal
Set "tDrive=E:"
Set "sFolder=%tDrive%\WindowsImageBackup\%COMPUTERNAME%\SystemStateBackup\"
Set "sFilyType=vhd"
Set "tDir=%tDrive%\WindowsImageBackup\%COMPUTERNAME%\SystemStateBackup\mergepoint"
C:\Windows\system32\wbadmin start systemstatebackup -backuptarget:%tDrive% -quiet
IF EXIST %tDir% ( echo Merge point ok... ) else ( Set NMP=TRUE & No Merge Point,
creating merge point... )
IF Definded NMP ( MD "%tDir%" )
PushD "%sFolder%" &&(
  FOR /R "." %%i IN (*) DO (
    If /i "%%~xi"==".%sFileType%" ( echo Moving %%i & MOVE "%%i" "%tDir%\merge.file" )
  )
)

GOTO:end
:domerge
 echo %%i

:mkmp
 mkdir %tDir

:fail
 echo "There was a problem..." & GOTO:end

:end
```

Step 4: Change the tDrive volume to the appropriate volume for the system state backups

Step 5: Plan the 'systemstatebackup.bat' in the Windows Task Scheduler to run daily

Step 6: Test the scheduled script

Step 7: Create a new backup task in the Online Backup Client

Step 8: Select the 'WindowsImageBackup' folder on the volume on which the system state backups are stored

Step 9: Configure the task and save it

The task will now upload the system state backups according to the task schedule.
Beware that the initial backup can be up to 4 GB's large, while differentials will be between 80 and 400 MBs.

14.2. Restore of a SystemState

Step 1: Restore all data in the 'WindowsImageBackup' folder using the Online Backup Client

Step 2: Open the most recently timestamped subfolder of the 'WindowsImageBackup\%COMPUTERNAME%\SystemStateBackup' folder

Step 3: Open the 'CatalogCopy' file situated in notepad

Step 4: Find the GUID (separated by spaces) located next to the '\ \ ? \ V o l u m e {' text

Step 5: Copy the GUID and remove all spaces

Step 6: Rename the merge.file to 'GUID'.vhd

Step 7: Move the file to its original location, being the most recently timestamped subfolder of the 'WindowsImageBackup\%COMPUTERNAME%\SystemStateBackup' folder

Step 8: Run 'wbadmin get versions' to obtain the version number of system state backup to recover

Step 9: Run 'wbadmin start systemstaterecovery -version:[yourversion]' to start the full recovery

This will execute a full recovery of your machine, please consult Microsoft online resources for additional options during restore

15. Microsoft Exchange 2000/2003

15.1. Introduction

To support backup and restore of MS Exchange Server 2000 or MS Exchange Server 2003, the Online Backup Client has to be installed on the same machine the server. The Online Backup Client supports Exchange backup in three ways:

- Through an ESE plug-in for Exchange **mail store backup**
- Through the **folder level backup** option (enables backup of separate mailboxes)
- Through VSS by performing a **backup of .edb and .stm files** on the file system

Note: ESE is the API of Exchange allowing backup applications to make a consistent and reliable backup.

15.2. Backup on mail store level (ESE plug-in)

To enable backup of mail stores, this option must be activated first. This can be done by checking 'Activate Exchange backup' in the 'Exchange Server' tab in the 'Options' view.

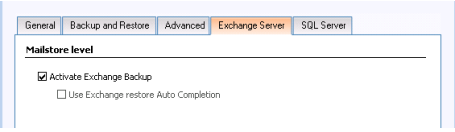

Figure 44: Activate ESE plug-in

Now the plug-in is activated, complete Servers, Storage Groups and single Stores can be selected for backup, in the Data tab in Task Properties.

Apart from the requirements listed below, performing a backup of an Exchange item is not different from doing backups of regular files and does not involve any further user actions.

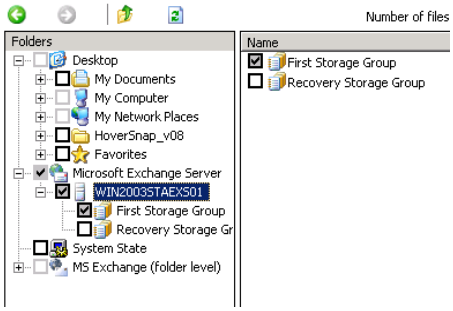

Figure 45: Exchange server in 'Data' tab

Note: 'Circular logging' on the Storage group must be disabled

Note: A mail store that is requested to be backed up must be mounted in order to be accessed. Dismounted Stores may appear in the folder-pane but cannot be backed up.

For Exchange Store level backups, you can set advanced options in the 'Advanced' tab of the Options view. The following options can be set:

Exchange Advanced Options

- **Truncate the transaction logs after a full backup**: This means that the log files will be truncated in the Exchange database when a full backup of the Exchange Store is enforced.

Enforce Full Exchange store/SQL Backup

- **Let the Online Backup Client decide**: This means that if more than 66% of the dataset changed compared with the already backed up data, the client will enforce a full backup again
- **Always**: This means the Online Backup Client will always enforces a full backup
- **Never**: This means that there will never be a full backup again, other than the first backup

15.2.1. Backup requirements

- MS Exchange Server must be installed and running on the local machine in order to perform backups
- The user that performs a backup must be assigned backup and restore privileges
- Circular logging must be disabled

Note: The Online Backup Client performs full or incremental backups. However, since incremental backups require a continuous series of log files, it is not possible to use third party software when the Online Backup Client is used to schedule backups of Exchange. This also holds vice versa. Third party software can cause data loss, since some programs remove logs.

15.3. Restore on mail store level

Backups of mail stores are listed in the 'MS Exchange Server' folder in the 'Restore' view. This folder holds sub folders for every Exchange Server that has been backed up. The restore can be performed in the same way as a normal data restore. Read chapter 'Restore' for more details on restoring from the Restore view.

The complete restore procedure has been defined in a separate Whitepaper because this is a delegate task. You can download it from our support site:
http://support.backupagent.com/index.php?_m=downloads&_a=viewdownload&downloaditemid=92&nav=0,34

15.4. Backup on folder level

The 'folder level backup' option is meant to backup separate mailboxes and its subfolders. This option offers an alternative to a full backup of MS Exchange 2003 and enables you to perform small restores of parts of the mail stores.

To enable a folder level backup, the option 'Activate Exchange server backup on folder level' must be checked. This checkbox can be found on the 'Exchange Server' tab in the Options view.

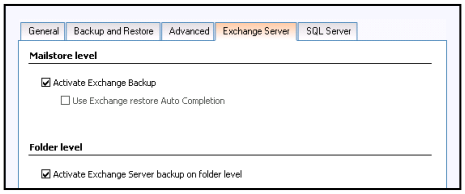

Figure 46: Activate Exchange Server on Folder Level

When folder level backup is activated a new 'MS Exchange (folder level)' node is added to the selection tree of the Data tab in Task Properties. This node can be expanded and allows you to browse through and select all mail stores, mailboxes and subfolders. Selected items will be added to the backup task.

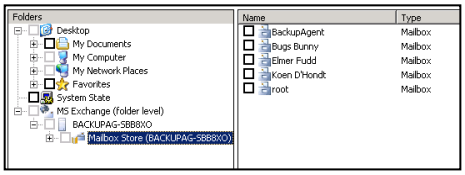

Figure 47: Overview of mailboxes in data selection dialog

Note: For ease of use and overview it is recommended to create a separate task for Exchange folder level backup. Do not mix this data with files to prevent confusion.

You are now ready to backup Exchange mailboxes. A backup of mailboxes works similar to the backup of files and folders. Next to that, Additional metadata concerning mailbox properties and settings are also uploaded.

Note: Please make sure that the temp-folder of the Online Backup Client is set to a path with enough available temporary disk space, since folder level backup can require a comprehensive amount.

15.4.1. Backup Requirements

Additional requirements

- MS Exchange 2003 Service pack 2 must be installed
- Windows 2003 must be installed
- Hot fix KB908072 for Exchange 2003 must be installed: http://support.backupagent.com/index.php?_m=downloads&_a=viewdownload&downloaditemid=36&nav=0,26

Security settings

- The 'SystemMailbox'-user must not be hidden from the Exchange address list
- The local and/or domain administrator must have 'receive as' and 'send as' permission to the mail store(s).

How-to: Un-hide SystemMailbox-user

1. Start the Active Directory management application
2. On the parent node for all users, right-click and choose 'Find users…'
3. In the 'Find Users'-dialog, type 'SystemMailbox' in the 'Name' field and click 'Find…':
4. Select the user and open its properties

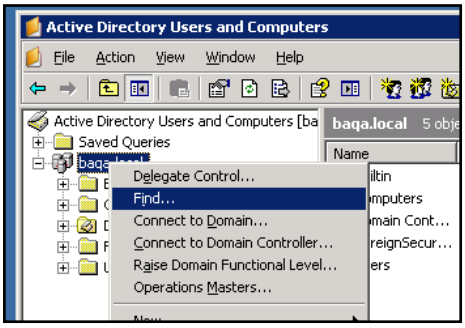

Figure 48: Find SystemMailbox

5. On the properties, click on the 'Exchange Advanced' tab
6. Make sure the 'Hide from Exchange address list' checkbox is unchecked
7. Click OK and close the application
8. (Re)start the Online Backup Client

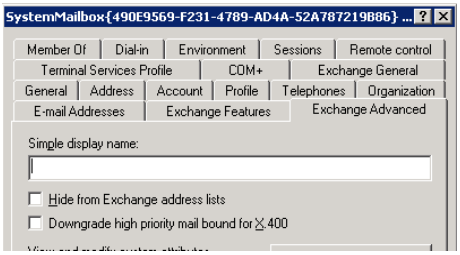

Figure 49: Exchange Advanced tab

How-to: Change permissions of the administrator

1. Start the MS Exchange System Manager
2. Browse to the mail store node in the tree
3. Right-click on the node and choose properties
4. In the Properties dialog, click on the Security-tab
5. On the Security-tab, click on the Advanced-button

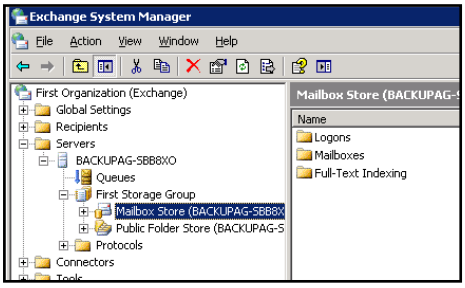

Figure 50: Select Exchange Mailbox Store

6. In the ‘permission entries’ list, select the local and/or domain administrator and click ‘Edit…’
7. In the Permission Entry dialog browse through the list of permissions
8. Check the ‘receive as’ checkbox permission in the ‘allow’ column
9. Check the ‘send as ‘ checkbox permission in the ‘allow’ column
10. Click Ok and close the application
11. (Re)start the Online Backup Client

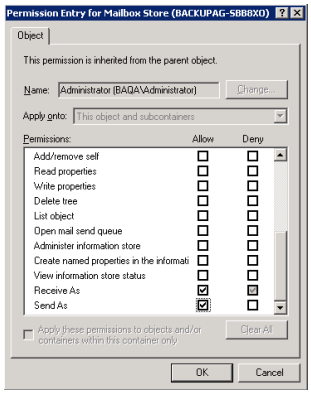

Figure 51: Set Receive As and Send As options

Note: If the Exchange Server is a Domain Controller, then the Domain Administrators must also have permission for ‘Send As’ and ‘Receive As’.

15.5. Restore on folder level

Once mailboxes are backed up on the Backup Server, restoring is possible on any Exchange server. You can browse for mailbox items in the ‘Restore’ view. To restore, simply select one or more items and then click on [Restore].

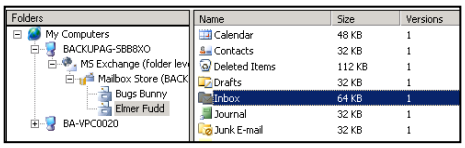

Figure 52: Version overview

Now, the Restore Options screen pops up. When you select 'Original Location' in the 'Restore to MS Exchange Server' options, you will overwrite the current data in the folder in Exchange.

When choosing 'Create copy of item', an additional folder with a 'Copy of'-prefix (i.e. 'Copy of Inbox') will be created in the user's mailbox.

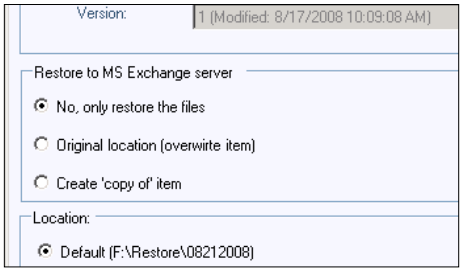

Figure 53: Select Restore location

Caution: Overwriting the items may cause data loss. It is strongly recommended to use this option only in case the original mailbox is empty or contains old data.

Caution: If you restore in 'Copy of item' mode, be aware that this copy might be part of next backup if the complete mailbox is selected for backup.

Note: For ease of use and overview it is recommended to create a separate task for Exchange folder level backup. Do not mix this data with files to prevent confusion.

15.6. Backup of Exchange using VSS

Finally Online Backup Client supports VSS and this can force Exchange to write a consistent backup copy of the .edb-file and the .stm file to the shadow volume. Therefore selecting these files is a reliable way of making a daily full backup, which will be patched as a file by Online Backup Client to upload only the changes.

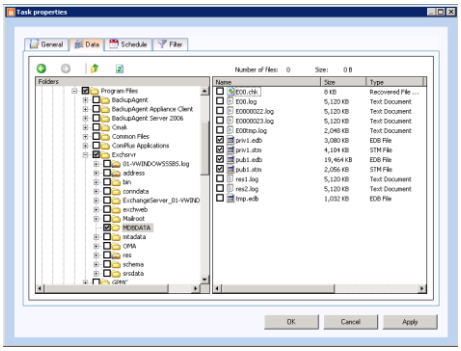

Figure 54: Backup Exchange using VSS

16. Microsoft SQL Server 2000/2005

16.1. Introduction

The Online Backup Client supports backup and restore of SQL Server 2000 and SQL Server 2005.This option can be activated by selecting 'Activate SQL Server Backup' in the 'SQL-Server' tab in the Options view.

Also the location of the SQL Server can be set in this tab. By default, this location is '127.0.0.1' (local machine) for MS SQL Server 2000 and '[MACHINENAME]\[INSTANCENAME]' for MS SQL Server 2005. User credentials are also required.

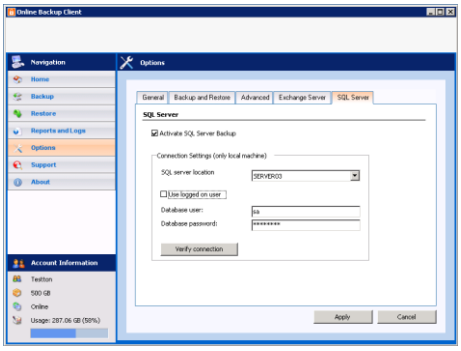

Figure 55: 'SQL Server' tab

16.2. Backup

When a connection to the SQL Server is established, the 'MS SQL Server' icon will be visible in the Folder pane of the 'Data' tab in the Task Properties. The databases are child-nodes.

Select databases to add them to the backup task, so they will be backed without any further user intervention.

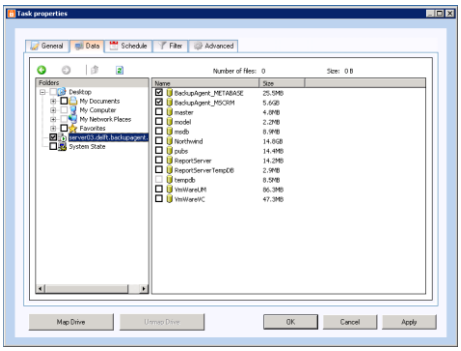

Figure 56: Select SQL database

16.2.1. Backup requirements

- A connection to the SQL Server is created using Integrated Security or by a user provided username/password combination. In any case the Online Backup Client must be provided with sufficient rights to perform the SQL backup procedures.

- User permissions for MS SQL Server 2000 are described here: http://www.microsoft.com/technet/prodtechnol/sql/2000/maintain/sqlbackuprest.mspx.
  In order to create a backup of a database, the user that connects to the SQL Server must be assigned the sysadmin Server Role and the db_backupoperator and dbo_owner DB roles.

16.2.2. Further notes on backup procedures

- The Online Backup Client connects to the local MS SQL Server so only backups of local databases can be performed.
- The tempdb database cannot be backed up or restored. Do not select this database for backup.
- The Online Backup Client can perform 'full' and 'differential' backups on MSSQL Server. The backup method that will be used is chosen automatically.

16.3. Restore

Databases that are available for restore can be found in the 'MS SQL Server' folder in the 'Restore' view. This folder contains the 'SQL Server' folder, which contains the backed up databases. These databases can be selected for restore.

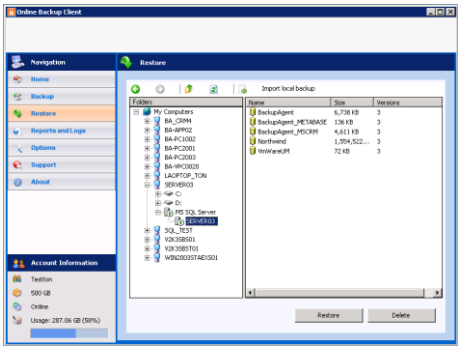

Figure 57: Select SQL database for restore

When the restore procedure is started you are asked for a destination folder of the database files. Please note that this location will be the location where MS SQL Server will mount the restored database. The default location that is used by MS SQL Server to store database files is C:\Program Files\Microsoft SQL Server\MSSQL\Data.

The Online Backup Client will try and download the database that is to be restored and insert it into the local instance of MS SQL Server. If a database with the same name already exists on the computer, it will be overwritten. You can choose to create a copy or to overwrite the original database.

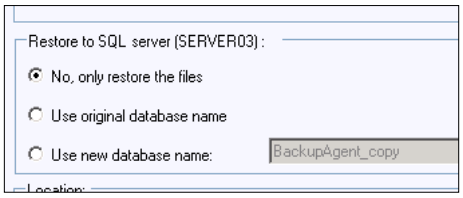
Restore to SQL server (SERVER03) :
No, only restore the files
Use original database name
Use new database name:
BackupAgent_copy

Figure 58: Select restore location

Caution: NEVER overwrite a database that is in production

16.3.1. Restore requirements

The Online Backup Client must be provided with correct permissions to perform the restore operation. According to Microsoft the user that connects to the Server must have the sysadmin and dbcreator Server roles and db_owner DB role assigned to it. More information: http://www.microsoft.com/technet/prodtechnol/sql/2000/maintain/sqlbackuprest.mspx

A restore of the master database can only be performed when the Server is in single user mode. SQL Server can be started in single user mode from the command line using the -m command line option: *"\Program Files\Microsoft SQL Server\MSSQL\Binn\sqlservr" -m*.

Note: The Online Backup Client connects to the local MS SQL Server so only restores into the local computer can be performed.